

SAPC 6278
Copy 1 of 7

16 May 1956

25X1A

MEMORANDUM FOR: [REDACTED]

SUBJECT : Results of First Tests on System One

25X1A

1. The first significant results is that the amplifiers have a sensitivity of approximately -25 dbm. This is 25 db. poorer than the usual amplifier built for this purpose. It seems that [REDACTED] met what he understands to be the requirement with this low sensitivity amplifier. This means, in non-technical language, that the equipment was designed to detect megawatt signals at optical range on S-band. With the usual amplifier for this type of receiver, one would detect signals of [REDACTED]

25X1D

25X1D

[REDACTED] at this optical range. On X-band, the system will have less intercept capability and can not be expected to intercept even the strongest signals known at optical range. As an estimate, I would judge that our maximum X-band intercept range on the strongest known signals will be about one-fourth of optical range or [REDACTED] miles. Again, this intercept range could be optical and signals considerably weaker than the strongest known should be detectable at maximum range if a suitable amplifier was available.

25X1D

3. Two solutions are being investigated. Burt is considering a transistorized amplifier for the System to have the same properties of the present amplifier, but a sensitivity of -50 dbm. or better. [REDACTED] is examining a transistorized amplifier being developed by [REDACTED] for other Agency ELINT operations to see if its sensitivity specifications and environmental reactions will allow it to be used in the same box as the existing amplifier. A specific recommendation will be made following these investigations.

25X1A

25X1A

25X1A

25X1A

25X1A

Distribution:

Copies 1 & 2 - [REDACTED]
3 - [REDACTED]
4 & 5 - ESO
6 - Project Chrono
7 - Daily Reading